REMARKS

Claims 25-27 are all the claims pending in the application.

Claim 27 has been canceled without prejudice or disclaimer. The Examiner is requested to enter this after-final amendment because it does not raise any new issues and it places the application in better condition for appeal.

PRIOR ART REJECTIONS

The Examiner has rejected claims 25 and 26 under 35 U.S.C 103(a) as being unpatentable over U.S. Patent No. 6,825,062 (Yee) and U.S. Patent No. 6,710,430 (Minamio). Applicants traverse these rejections because one skilled in the art would not have combined the teachings of Yee and Minamio to arrive at the claimed invention.

Yee discloses methods of fabricating lead frame packages having lead separation preventing means (see Col. 12, lines 17-18). Although not shown in Fig. 7A referred to in Col. 12, lines 17-18, one of skill in the art would understood from the remaining disclosures in Yee that the lead separation preventing means includes a lead lock, referred to as element 14 in the figures, that is formed on the inner ends of the leads to maintain the leads in position when impacted during singulation. Yee also discloses the use of an adhesive on the die pad and the inner leads to eliminate a short circuit from occurring should the leads come into contact with the lower surface of the semiconductor chip (see Col 12, lines 41-45).

Yee, however, only discloses single row leads surrounding the die paddle and therefore does **not** disclose the feature of the post portions and severing of the post portions to create dual or more rows of leads without affecting the overall stability of the IC structure. Moreover, the teachings of Yee do not suggest that stability of the package is by reason of the die being

mounted onto the die pad and portions of the inner leads as defined in claim 25 of the present application.

The method of the claimed invention as defined by claim 25 fabricates a multi-row lead frame package. By having post portions which connect the inner leads to the outer leads, and severing the post portions to create dual or (more) rows of leads, mechanical impact on the overall structure is reduced during the severing, thereby maintaining the leads in position and possible deformation of the overall structure. Also, the integrated circuit chip being mounted onto the lead frame in a manner such that second face of the chip is connected to the first face of the die pad and a portion of the inner leads, improves stability of the overall IC structure. The combination of both features advantageously provides the desired stability to the overall structure of the IC package and maintains proper position of the leads.

Minamio discloses lead frame packages with muti-rows of leads and that the first lead and third lead are physically and electrically separated by punching through the connecting portion Rcnct (see Col. 8, lines 7-20; Col. 11, lines 28-29). Minamio also teaches that the leads are separated to prevent crosstalk from occurring (see Col. 11, lines 28-39).

Minamio, however, does not teach or suggest that the connecting portion (post portion) between the first and third leads (i.e., inner and outer leads) is designed such that severing thereof would maintain stability to the structure and maintain the position of the leads. The severing of the connecting portions in Minamio merely functions to separate the first and third leads so that cross talk can be prevented.

Minamio also does not disclose the integrated circuit chip being mounted onto the leadframe in a manner such that the second face of the chip is connected to the first face of the die pad and a portion of the inner leads to maintain stability of the structure. Instead, Minamio

teaches a neck portion in the second lead (see Col. 8, lines 47-51; Col. 10, lines 18-33) and stepped portions formed around bonding pads (see Col. 10, lines 34-43) to maintain stability by providing a synergistic effect of stopping the progress of the stripping between the encapsulation resin and the leads (see Col. 10, lines 39-43).

In light of the above, one of skilled in the art, would not have been motivated to combine the teachings of Minamio with Yee to arrive at the method as defined by claim 25. Yee relates only to lead frame packages with single row of leads surrounding the die pad and therefore does not suggest any severing of post potions to create multi-rows of leads surrounding the die pad without affecting the stability of the IC structure and positions of the leads. If the skilled artisan were to refer to Minamio for guidance, with the aim of providing stability and maintaining positions of the leads in multi-row lead frame packages, he would be looking into developing neck portions or stepped portions which are taught by Minamio to maintain stability, and would clearly **not** have arrived at the combination of steps involving severing of post portions and die mounting on both the die pad and part of the inner leads, to provide stability to the overall IC package and maintain proper positions of the leads.

It is therefore respectfully submitted that claim 25 is not obvious in view of the combined teachings of Yee and Minamio. Claim 26, which is dependent on claim 25, is accordingly also not obvious.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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